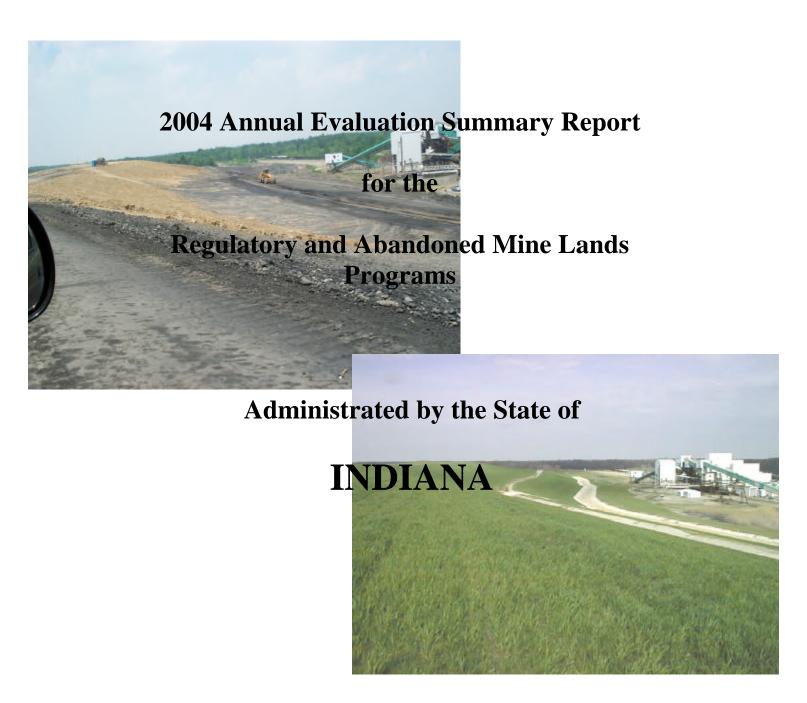
OFFICE OF SURFACE MINING



Prepared by: Indianapolis Field Office Office of Surface Mining

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Cover page is two photo's of the Peabody Coal Company, Lynnville Mine AML Gob Pile project. Upper photo was taken during reclamation and lower photo, taken from the same approximate location, was after reclamation was completed.

I. Executive Summary

During the 2004 Evaluation Year (EY), the Office of Surface Mining (OSM), Indianapolis Field Office (IFO), conducted oversight evaluations of the Indiana Department of Natural Resources, Division of Reclamation (IDOR), Regulatory and Abandoned Mine Land (AML) Programs. Oversight activities focused on the success of the agency in meeting Surface Mining Control and Reclamation Act (SMCRA) goals for environmental protection, and prompt, effective reclamation of land mined for coal. A Performance Agreement (evaluation plan) for each program was cooperatively developed by the IFO and the State tailoring oversight activities to the unique conditions of each State program. The purpose of these oversight activities was to identify any need for program assistance to the State to strengthen its programs.

In support of OSM's national initiatives, studies were conducted in the areas of off-site impacts, reclamation success (bond release), and customer service.

- The off-site impacts study indicated that 92.6 percent of Indiana's inspectable units were free from off-site impacts. The numbers of off-site impacts the IDOR observed during the evaluation year were few. Most observations were minor hydrologic impacts on land and water resources. The IFO concludes that the insignificant numbers of identified on-the-ground impacts and violations substantiate that the State is administering a successful surface mining regulatory program.
- The IFO's review of 11 bond release actions demonstrated that the IDOR continues to follow all program requirements for releasing bonds.
- The IFO's customer service evaluation concentrated on the effectiveness of customer service provided by the IDOR in responding to written citizen complaints about active coal mining operations. The IFO reviewed 22 complaints concerning blasting, and 9 complaints about non-blasting issues. Review results indicated that the IDOR is complying with requirements relating to citizen complaints in its regulations. However, the IFO recommended that the IDOR improve procedures ensuring proper and complete file documentation. The IDOR has already implemented a new process.

General oversight topic reviews were conducted during EY 2004, for both the State Regulatory and AML Programs.

- The IFO targeted 50 inspectable units for complete inspections to evaluate IDOR effectiveness in protecting the public and the environment from off-site impacts and other on-the-ground problems resulting from surface coal mining and reclamation operations. These inspections were intended to identify the cause and degree of off-site impacts, to direct efforts toward decreasing their occurrence. The IFO performed 47 of the targeted number, the results of which indicated that the IDOR administers an effective program meeting SMCRA requirements.
- The IFO continued a cooperative effort with the AML Program, begun in EY 2003, to evaluate its revegetation success. Completed reclamation projects of varying ages, and

seeding and management regimens were evaluated to help identify the most successful and cost effective reclamation strategies. This cooperative effort will continue into the 2005 EY.

- The IFO and IDOR continued a cooperative study begun in EY 2003, of issues surrounding an increasing trend toward residential development on unreclaimed abandoned mine lands. For public education purposes, a publication entitled "What You Need to Know about Living near Indiana Coal Mines" neared completion in EY 2004. The booklet is intended as a guide for landowners, developers, and local officials to better assess abandoned mine lands before building. Completion of this effort is anticipated in EY 2005.
- To address a national audit report recommendation issued by the Department of the Interior's Inspector General in 2003, the IFO conducted oversight this review period certifying that the State has in place a system to ensure that data entered into the AML Inventory System (AMLIS) is accurate.

In addition to national initiative, and topical reviews, the IFO engaged in a number of assistance activities during the review period. The primary mode of OSM assistance to Indiana is through grant funding. Indiana was awarded \$1.94 million in EY 2004, providing 50 percent support for its Regulatory Program. OSM provides 100 percent funding for the Indiana AML Program, which totaled \$8.0 million in EY 2004.

OSM provides ongoing technical assistance to State and Tribal programs. One way is by offering a wide range of technical training courses throughout the year. In EY 2004, several individuals from Indiana's Regulatory and AML Programs attended some of these training courses. Another way is through the Technical Information Processing System and its workstations and software OSM provides for State use in permit processing and engineering evaluations, for example. Still another way is in responding to assistance requests concerning specific matters. In EY 2004, OSM provided requested assistance to Indiana in the following matters.

- OSM continued to work with the IDOR and the U.S. Fish and Wildlife Service to
 develop a conservation plan for the protection of threatened and endangered Indiana
 Bats found in areas proposed for mining. This effort is not completed, but Indiana is
 already implementing certain conservation measures through its permitting and
 inspection processes.
- The IFO Director sits on the Executive Board of the Indiana Society for Mining and Reclamation, a group representing the IDOR, OSM, the coal industry, citizens, Indiana Department of Commerce, academia, and the power industries. This group identifies relevant topics and sponsors a Technology Seminar each year. In December 1-2, 2004, the seminar was held in Jasper, Indiana, with 127 participants from both the public and private sectors. Topics ranged from "Geophysical Methods to Detect Underground Mine Voids," "Surety Bonds and Their Role in the Mining Industry," to "The Use of

Dredged Materials and Alkaline Activated Coal Ash for Abandoned Mine Reclamation."

- The IFO continued participation in the Indiana Soils/Prime Farmland Team. This self-directed group is composed of representatives of the Natural Resources Conservation Service, the coal industry, the Sierra Club, academia, the Purdue University Cooperative Extension Service, the Daviess County Soil and Water Conservation District, and the Indiana Farm Bureau. The team's focus is on restoration of mined agricultural land, and management of reclaimed farm land. In 2004, the team assisted in research to more accurately classify reclaimed mine soils, and worked on developing a booklet about managing reclaimed farmland. On July 30, 2003, the Team sponsored a Prime Farmland Reclamation Field Day at the Vigo Coal Company, Cyprus Creek Mine near Boonville, Indiana.
- OSM participated on the IDOR AML Subsidence Team, formed in 1999 to develop proactive methods for preventing and minimizing damages caused by mine subsidence. Three initiatives have been completed: (1) the team contributed information about subsidence for a booklet the IDOR is developing entitled "What You Should Know About Living Near Indiana Coal Mines," (2) the team developed specifications for, and solicited a contractor to install a subsidence early warning system at the Loge Elementary school in Boonville, Indiana, and (3) the team engaged the Indiana Geological Survey (IGS) to develop a Geographic Information System (GIS) based protocol for prioritizing subsidence prone areas for preventive abatement by the AML Program.
- OSM provided requested assistance in designing an acid mine drainage (AMD) treatment wetland associated with the State's Enos Tipple and Gob Pile AML Project. Project plans were provided to the State in January 2004, and project construction is scheduled for the fall of 2004.
- At the State's request, OSM conducted a Mobile Computing Workshop for the IDOR in November 2003. Thirteen participants learned how to use mobile Global Positioning System (GPS) and mobile Computer Assisted Design (CAD) software and hardware operating on GPS enabled tablet computers.

II. Introduction

SMCRA created OSM in the Department of the Interior. SMCRA provides authority to OSM to oversee the implementation of, and provide Federal funding for, State Regulatory and Abandoned Mine Land Reclamation Programs approved by OSM as meeting the standards specified in SMCRA. This report contains summary information regarding the Indiana program and its effectiveness in meeting the applicable purposes of SMCRA as specified in section 102. This report covers the period of July 1, 2003, to June 30, 2004. Detailed background information and comprehensive reports for the program elements evaluated during the period are available for review and copying at the IFO of the OSM.

The following acronyms appear in this report:

| ACSIAppalachian Clean Streams Initiative |
|--|
| AMDAcid Mine Drainage |
| AMLAbandoned Mine Land |
| AMLISAbandoned Mine Land Inventory System |
| AOCApproximate Original Contour |
| AVSApplicant Violator System |
| CADComputer Assisted Design |
| EYEvaluation Year |
| GISGeographical Information System |
| GPSGeographic Position System |
| IDORIndiana Department of Natural Resources, Division of Reclamation |
| IFOIndianapolis Field Office of the OSM |
| IGSIndiana Geological Survey |
| NOVNotice-of-Violation |
| NCAANational Collegiate Athletic Association |
| OSMU. S. Department of the Interior, Office of Surface Mining |
| PSFWSCPatoka South Fork Watershed Steering Committee |
| RC&DResource Conservation and Development Area |
| SMCRASurface Mining Control and Reclamation Act of 1977, PL 95-87 |
| SWCDSoil and Water Conservation District |

III. Overview of the Indiana Coal Mining Industry

Coal Resources

The Indiana coalfield covers an area of about 6,500 square miles in west-central and southwestern Indiana (see map at right). It constitutes the eastern edge of the Illinois Coal Basin, a basin that covers parts of a three-state area, including most of Illinois and

western Kentucky. Indiana coal seams dip about 25 feet per mile to the west toward the center of the Illinois Coal Basin. This configuration largely accounts for the location of surface and deep mines in Indiana.

Twenty counties within, or partly within, the Indiana coalfield have significant coal reserves. Currently, however, coal is being mined in only 11 counties. Indiana has an approximate 34 billion ton coal reserve, 18 billion tons of which are recoverable using current technology. Of the recoverable coal, about 16 billion tons can be extracted through underground mining and 2 billion tons through surface mining.

Coal production in Indiana comes from beds within the Pennsylvanian System. All coals are ranked as high-volatile, bituminous coal, and are characterized as follows:



Index map of Indiana showing the coal-bearing rocks of the Pennsylvanian System in green, underground coal mines in blue, and surface coal mines in brown.

Indiana Coal Values

| Value | High | Low |
|----------------------|--------|--------|
| Moisture Content | 15% | 5% |
| Heating Value In BTU | 12,000 | 10,500 |
| Ash Content | 20% | 5% |
| Sulphur Content | 6% | 0.5% |

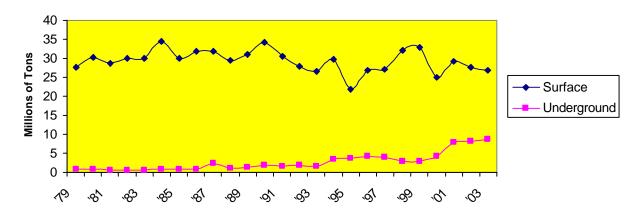
Historical Highlights

Coal was first discovered in Indiana along the Wabash River in 1736, and was reported in land surveys and its location marked on maps by 1804. Small-scale surface mining along exposed coal seams was done at first by pick and shovel and later by horse and scraper. The first underground mine shaft in Indiana was developed in 1850 at Newburgh, Indiana, and by 1852 both shaft and slope mines had became common. In 1840 production was around 9,700 tons, and by 1918 at the close of World War I, production in Indiana had reached over 30,000,000 tons per year. With the advent of steampowered equipment, surface mining began on a large scale and since that time has remained a strong and viable industry.

Coal Mining

While underground mining was once the major method of coal extraction in the state, in recent decades Indiana coal has come primarily from surface mines. As technology advanced from steam-powered equipment in the first half of the twentieth century, to diesel, and then to electric power, so the size of equipment advanced. Twenty-five years ago coal was usually surface mined at depths of no more than 65 feet. Today surface mining equipment is capable of removing overburden to mine coal seams approaching 200 feet in depth.

Surface and Underground Production 1979 - 2003

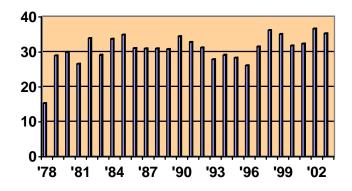


However, because a large portion of the surface reserves has already been removed, in the future surface mining activities are expected to decline, accompanied by a resurgence of underground mining in deeper coal beds. In fact, this resurgence is already evident. In 1990, 5 percent of Indiana's coal production was from underground mines; in 1997, 12.9 percent; and in 2003, 24 percent of total tonnage came from underground mining.

Indiana Coal Production

Annual coal production in Indiana during the last 5 years has averaged a little over 34 million tons, with a value of about \$600 million. According to the National Mining Association survey of major producers, three of the nation's major underground coal mines are located in Indiana, producing a total of 5.4 million short tons of coal in 2003, and six major U.S. surface mines,

INDIANA COAL PRODUCTION BY YEAR (MILLION OF TONS)



producing 18 million short tons of coal in 2003.

In 2002, Energy Information Administration figures indicate that the Indiana coal industry employed an average workforce of 2,702 directly, and thousands more in the various support and associated service industries.

Uses of Indiana Coal

Most of Indiana's coal is used by the electric utility industry, which burns a combination of Indiana coal, and lower sulfur, out-of-state coal to meet current air pollution emission requirements. In 2002, the total electric generation in Indiana was 125,608,139 million megawatt hours. Coal-fired power plants account for 94% of Indiana power generation and consume nearly 56 million tons of coal, according to the Energy Information Administration. Additionally, by law, Indiana state institutions heating with coal-fired boilers are required to use Indiana coal. Other consumer uses includes coke plants, residential and commercial users, other industrial customers, and foreign export.

IV. Overview of the Public Participation Opportunities in the Oversight Process and the State <u>Program</u>

The *Indiana Prime Farmland Team* consists of representatives from the Natural Resources Conservation Service, the Daviess County Soil and Water Conservation District, the Sullivan County and Purdue University Cooperative Extension Service, the Indiana Farm Bureau, the IDOR, the Indiana Coal industry, the Sierra Club, a private consultant, and the OSM. This team meets periodically to address prime farmland issues.

On July 30, 2003, the Indiana Prime Farmland Team held a Surface Mine Reclamation

Field Day, at the Vigo Coal Company Cypress Creek Mine in Warrick County. This educational effort targeted State and local leaders, interest organizations, and especially individuals who manage reclaimed cropland. The program consisted of a discussion of the permitting process, tour stops to observe active coal extraction, the truck/shovel method of topsoil and subsoil removal, the replacement of topsoil and subsoil, and land leveling, mulching and crimping, and deep ripping demonstrations.

At another mine tour stop attendees observed corn and soybean plots where current research by the University of Illinois is being conducted to evaluate alternative mine soil reconstruction methods. Other stops included a four year old tree planting project, and Cypress Creek's "Big E"



Project, a 45 acre wetlands/flood control area resulting in a great benefit to the community, and which later on in 2003, won OSM's Silver, National Good Neighbor Award. About 120 people attended the Field Day.

On October 7, 2003, the *Sycamore Trails Resource Conservation and Development* (*RC&D*) Council sponsored a tour of recent AML projects done under its Partners for Reclamation Program. Local citizens and public officials attended. Four AML projects in Sullivan County were highlighted on the RC&D tour. The RC&D serves nine counties in west central Indiana.

The RC&D, made up of volunteers with expertise in various areas, including mining and reclamation, works with landowners through its Partners for Reclamation Program to deal with problems caused by past coal mining. Funds are raised through grants, and the organization has a funding agreement with the Indiana Department of Natural Resources, Division of Reclamation, and the Indiana Department of Environmental Management. Property owners adversely affected by abandoned coal mining operations can apply for assistance through the county Soil and Water Conservation District (SWCD). Once the SWCD accepts the project, the Division of Reclamation's AML Program reviews it and may fund up to 85 percent of the project through the RC&D. The property owner ultimately becomes a partner, providing in-kind contributions such as some project work.

During EY 2004, the *Patoka South Fork Watershed Steering Committee*, (PSFWSC) a group formed under the Appalachian Clean Streams Initiative (ACSI), met periodically to develop and implement projects to improve the Patoka River South Fork Watershed. Past coal mining activities, oil and gas operations, and agricultural practices have had a strong negative impact on this watershed. Both OSM and IDOR are represented on this committee.

Forty-seven teachers attended the 2003 *Minerals Education Workshop* on November 7-8, 2003, at Rose-Hulman Institute of Technology in Terre Haute, IN. This was the fourth annual workshop sponsored by the IDOR. Geared for teachers from kindergarten through middle school, this workshop provides the opportunity to learn about many aspects of mining, electricity, and information on minerals and their impacts on our daily lives. The first day was devoted to hands-on activities that the teacher can use immediately in the classroom. Division staff, a guest from the Illinois Department of Mines and Minerals, and a retired State Geologist of Missouri, taught the sessions. All activities presented during the day, along with others, were compiled into a teacher's manual of lesson plans for all age groups. Teachers took home a large plastic tote full of materials to facilitate their teaching of the subjects they learned. A tour of the Black Beauty Coal Company Farmersburg Mine was given on the second day of the workshop. This tour allowed the teachers to see the activities from day one used in real world situations.

The *Indiana Coal Council* is the primary representative of the coal industry in the State, while the environmental community is primarily represented by the *Hoosier*

Environmental Council. The IFO maintains as needed contacts with these organizations, their members, and citizens throughout the evaluation year.

The IDOR successfully implements the required public participation provisions of all aspects of its regulatory and AML Programs. In addition to addressing the required provisions of public participation, Indiana has taken a pro-active position regarding outreach and the distribution of information to all stakeholders. Under its "Operation Excellence" Program, Indiana established a goal "To create a greater public awareness of, and appreciation for Division programs through the use of various written, audio, and visual media."

The following informational publications are present on the IDOR web site as well as through phone or mail and personal contact:

Citizen's Guide to Indiana's Abandoned Mine Land Program, Citizen's Guide to Coal Mining and Reclamation in Indiana, Citizen's Guide to Land Reclamation, Division of Reclamation Annual Report, and Division of Reclamation Strategic Plan.

The IDOR site also provides abundant information about the mission of the agency, the programs administered by the agency, and tools and publications available to the public.

Indiana continues to be pro-active in meeting controversial situations head on. It routinely conducts meetings and gathers public input when significant questions arise about a program area under its jurisdiction.

All of this is part of an overall strategy by the State directed toward better citizen understanding and involvement in the Regulatory and Abandoned Mine Land Programs.

V. Major Accomplishments/Issues/Innovations in the Indiana Program

Indiana maintained its Regulatory Program in EY 2004 to assure that the approved program remains effective in providing protection from the adverse effects of surface coal mining operations. Indiana also maintains a cooperative agreement with OSM to administer the State program requirements on federally owned land. Indiana has proposed several amendments to assure that its program remains timely and as effective as the Federal requirements.

Adopted State Program Final Rules

During the 2004 EY, Indiana adopted a program amendment, effective December 31, 2003, which revised rules concerning protection of ground water quality that provide additional safeguards for ground water.

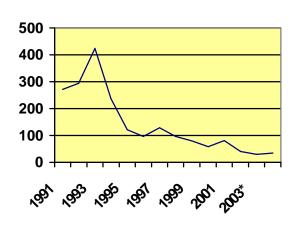
Also in EY 2004, Indiana submitted an amendment to its AML Reclamation Plan, to add the AML Enhancement Rule provision to address government financed construction, funded with less than 50 percent of state funds. This amendment was still pending adoption at the close of the Evaluation Year.

Indiana also submitted three more regulatory program amendments in EY 2004, resulting from several State statutory changes. These amendments were pending publication as proposed rules at the end of the Evaluation Year.

Environmental Compliance

Indiana administers its program in a way that effectively protects citizens and the environment from adverse impacts resulting from surface coal mining activities. Since 1991, environmental compliance by coal mining operators has significantly improved as can be seen in the decrease of Notice-of-Violations (NOV) issued from 1991 to 2004. *EY 2003 was for 9 months. The table to the right graphically illustrates this compliance increase.

- NOVs Issued Annually



Blanket Emergency Approvals

In EY 2003, the IFO and the IDOR developed a Blanket Emergency Approval Agreement. This Agreement identified instances where the IDOR would not have to contact the OSM in advance for approval for expenditures for emergency projects which meet specified criteria. The initial Agreement specified that "pit" subsidence projects would be the only emergency project that met the criteria.

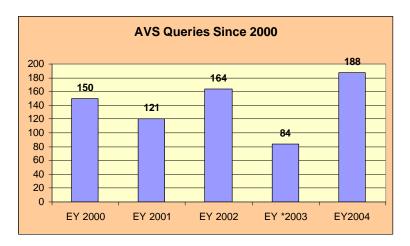
During EY 04, the IDOR completed 20 emergency pit subsidence projects. The



benefits realized by this new agreement was that the amount of time taken to address each project was reduced by one working day, and safety hazards that affected over 1462 people were eliminated more quickly than under the previous emergency process, thus reducing the exposure of the public to hazardous situations and the possibility of injury or even death.

Applicant Violator System (AVS)

During the reporting period the IDOR complied with provisions of the April 1, 1991, Memorandum of Understanding with OSM and continues to comply with provisions requiring AVS checks of contractors for abandoned mine lands. Indiana continues to update ownership/control information on a timely basis.



Clean Stream Activities

Indiana continues to be an active participant in the ACSI. Historically, the IDOR has dealt primarily with two organizations that address clean streams projects. The southern portion of the Indiana coal field is represented by the Four Rivers RC&D and the northern portion of the Indiana coal field is represented by the Sycamore Trails RC&D. The State of Indiana, Division of Reclamation has used the resources of the State for engineering design and administration to support projects of the Four Rivers RC&D. Some Clean Streams Initiative (CSI) grants are fully funded State projects.

In EY 2004 the Daviess County Highway project in Pike County was completed with a grant of \$68,751.75 funded in EY 2003. This was a cooperative effort between the State of Indiana providing design and labor, Black Beauty Coal Co. providing top soil and machines, Four Rivers RC&D providing coordination, and Daviess County Highway providing revegetation. It consisted of removing an AMD producing 5 acre gob pile, placing top soil, and revegetating the site. The site is now usable by Daviess County probably for industrial or recreational purposes.

Current CSI activities including the large Enos Wetland project continue. This is the construction of a 60 acre artificial wetland to process AMD from 200 plus acres of the old Enos gob pile near Arthur, Indiana. Construction will begin in August 2004. When completed, it is expected that the AMD produced by the gob pile will not need active treatment and the South Fork of the Patoka River will be further enhanced.

National Abandoned Mine Land Reclamation Awards

Each year the OSM honors the best examples of abandoned mine land reclamation. The award winners are recognized as a leader in the field of mine reclamation that set the standards of excellence for the future, and help preserve and enhance the quality of American life. Previous Indiana AML award recipients are:

Indiana AML Award Winners

| Year of Award | AML Reclamation Project |
|------------------|---------------------------------|
| 1992 | Boonville Hospital RAMP Project |
| 2000 | Midwestern Reclamation Project |
| 2002 | Sunshine Mine |
| 2003 | Victory Mine |

National Award, Peoples Choice Award, Mid-Continent Regional Award

The AML award recipients were recognized for:

- Reclaiming a site with a 35-foot highwall and a water-filled pit, both hazardous
 attractive nuisances to children who live nearby and attend the elementary school
 that borders the abandoned mine site. One side of the pit area, near a residential
 area, was caving in, and the other side was sloughing, posing a threat to an
 adjacent hospital. In reclaiming the site, the abandoned mine hazards were
 eliminated and turned the site into a useful and attractive resource for the
 community.
- The reclamation of a 270-acre site by eliminating 4,400 feet of dangerous highwalls, coal refuse and spoil, plus 30 million gallons of acid water from slurry ponds. Coal combustion by-products were used to enhance the quality of water discharged from the site.
- Transforming barren and eroded abandoned mine refuse, that created sedimentation and acid mine drainage problems of adjacent streams, into an outstanding wildlife habitat much of which has become an area of intense human activity. Today, this reclaimed abandoned mine site is home to a championship cross country running course that is used by local high schools and colleges and became the site of the



2002 National Collegiate Athletic Association (NCAA) national championships. Over 10,000 people attended this event. This site has also been selected as the 2004, 2005, and 2006 NCAA Division 1, men's and women's Cross Country

Championships. In addition, the site has a sports center with basketball courts, weight room, and other public activity rooms.

• Elimination of a 25-acre area of gob, slurry, mine drainage, and derelict buildings. The project included regrading refuse, spreading 100 tons per acre of agricultural lime, covering the material with four feet of soil, and planting vegetation. In addition, almost 5,000 linear feet of erosion control features were installed. Most drainage from the reclaimed site has been directed into a small wetland that improves site aesthetics, eliminates off-site sedimentation, and enhances water quality downstream.

Active Mining Reclamation Awards

The Indiana program has consistently been one that has encouraged operators to mine and reclaim responsibly. The positive interaction between the regulators and the industry is evident by the number of OSM Reclamation Awards that Indiana has received over the years. Since the inception of the OSM awards, the accomplishments of the following Indiana operators have been recognized:

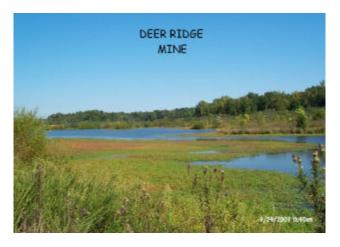
| Year of | Company | Mine |
|---------|-------------------------------|--|
| Award | | |
| 1988 | Black Beauty Coal Company | Arlen |
| 1989 | Vigo Coal Company | Discovery |
| 1990 | Solar Sources | Skypoint |
| 1990 | Fowler Excavating | Bullock |
| 1991 | Foertsch Construction | Little Sandy |
| 1992 | Solar Sources | Pit 12 |
| 1997 | Solar Sources | Pit 12 ¹ |
| 1999 | Amax Coal Company | Ayrshire |
| 2000 | Black Beauty Coal Company | Columbia |
| 2001 | Triad Mining | Switz City |
| 2001 | Kindill Mining | Mine 2 |
| 2001 | Black Beauty Coal Company | Mines in Indiana and Illinois ² |
| 2002 | Solar Sources | Skypoint ³ |
| 2003 | Black Beauty Coal Company and | Deer Ridge ² |
| | United Minerals Company | |
| 2003 | Squaw Creek Coal Company | Squaw Creek |
| 2003 | Vigo Coal Company | Cypress Creek ⁴ |

1- HALL OF FAME AWARD 2- DIRECTOR'S AWARD 3-25th ANNIVERSARY GOLD AWARD 4-GOOD NEIGHBOR AWARD

Examples of the outstanding reclamation that past Reclamation Award winners were recognized for are:

• Exemplary soil replacement, and for restoring the site to farmland, which is now producing a variety of crops, including hay, soybeans, and wheat;

- Eliminating abandoned mine problems, and restoring productivity to agricultural land. Wetlands were created and trees and shrubs were planted to provide a diverse wildlife habitat.
- The development of a Wildlife Management Area, managed to promote fish, wildlife, and related environmental values
- Special soil handling methods were employed to meet productivity standards resulting in exemplary post-mining agricultural land
- Reclamation that created some of the best reforestation and wildlife habitat to be found on reclaimed coal mine lands.
- Creating a unique fish and wildlife habitat which will be used for public recreation activities such as hunting, fishing, hiking, biking, and bird watching
- Exceptional mining and reclamation by a small coal operator (under 100,000 tons per year) while returning the mine site to its pre-mining usage for row crops, pasture, and forestry, after skipping just one growing season during mining.
- Creating exemplary wetlands that resulted in 44 shallow wetlands covering approximately 160 acres. In addition, there are now 72 permanent impoundments covering approximately 246 acres. Many of the impoundments were constructed with remnant standing timber that provides protected bird nesting sites.
- Using native species of grasses to establish wildlife areas to add diversity and provide cover and food for grassland birds. These grasses produce hay crops, yield additional seed for planting natural grass areas, and provide wildlife with a unique habitat.





 Constructing a wetlands/flood control area drainage system that eliminated continuous downstream flooding in Boonville, Indiana, crop losses, flooding of the city's waste water treatment plant and roads.



VI. Success in Achieving the Purposes of SMCRA as Determined by Measuring and Reporting End Results:

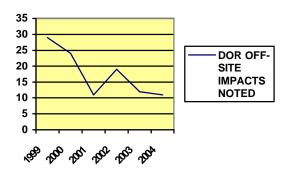
Performance standard based reviews, along with public participation evaluations provide the IFO with a broad picture of:

- The number and extent of observed off-site impacts;
- The number of acres that have been mined and reclaimed and which meet the bond release requirements for the various phases of reclamation; and,
- The effectiveness of customer service provided by the State.

Individual topic reports, available in the IFO, provide a detailed analysis and information concerning how the evaluations were conducted and how the conclusions were reached.

A. Off-Site Impacts:

A primary focus of SMCRA is the protection of the public, property, and the environment from adverse effects of active coal mining operations. The goal, therefore, is that there be no impacts, or no greater than minimal impacts, outside the permit area. To accomplish this goal, State programs strive to continually decrease the occurrence of off-site impacts.



The IFO and IDOR conducted a joint evaluation in EY 2004 to determine the effectiveness of the State program in protecting the public and the environment from off-site impacts caused by surface mining and reclamation operations. Conclusions were based on data from IFO complete oversight inspections along with data reported by the State.

The IDOR inspected a total of 121 inspectable units (a total of 2016 individual inspections were conducted) in EY 2004, and found 11 off-site impacts on 9 inspectable units. Of the 121 inspectable units, 92.6 (%) were absent any off-site impacts. The 11 off-site impacts observed by the IDOR during this evaluation year are less than the previous year, but the percentage of sites with no off-site impacts was slightly less. The IDOR observed 11 off-site impacts in EY 2004, 12 in EY 2003, 19 in EY 2002, 11 in EY 2001, 24 in EY 2000, and 29 in EY 1999.

It should be noted that, even though ideally the goal is not to have any incidents occur, the realistic goal in OSM's FY 2004, Annual Performance Plan is to maintain the percentage of sites free of off-site impacts at 94 percent.

The numbers of off-site impacts the IDOR observed during the evaluation year were few. Most observations were minor hydrologic impacts on land and water resources.

In EY 2004, the IFO observed 2off-site impacts in the course of making complete inspections on 47 inspectable units. The IFO issued one Ten-Day Notice in EY 2004 relating to off-site impacts. One violation observed by the IFO, which had an off-site impact, was previously addressed by the State. The IFO found 95.7% of the inspectable units it inspected were absent any off-site impacts.

The IFO concludes that the insignificant numbers of identified on-the-ground impacts and violations substantiate that the State is administering a successful surface mining regulatory program. The IFO recommends that the State continue to ensure mining is being conducted in such a manner.

B. Reclamation Success:

Thousands of acres of land affected by surface coal mining are successfully reclaimed each year as noted in Table 5 of this report.

The IFO conducted site visits at 11 permanent program surface mines and evaluated 1651.7 phase I acres, 1667.4 phase II acres and 25444.4 phase III acres that the IDOR subsequently released. The IFO agreed with the IDOR that these acres met the reclamation requirements to be eligible for release of bond. Therefore, the IFO concludes that the IDOR is ensuring successful reclamation on lands affected by surface coal mining operations.

Specifically, the following elements were evaluated for successful reclamation:

Land Form/Approximate Original Contour and Soil Replacement

The criterion for determining whether reclaimed lands are reconstructed appropriately is whether it has been returned to its approximate original contour (AOC), including soil replacement. For the purposes of this

evaluation Phase I bond releases were used as the indicator that the AOC had been achieved and soils had been replaced. For the evaluation period, approximate premining contour, including soil replacement, was achieved on 5,274.70 acres. To date approximately 98,428 acres have met the criteria for, and have been granted, Phase I bond release.

Surface Stability and Establishment of Vegetation

For the purposes of this evaluation, surface stability and the establishment of vegetation were measured by the acres of Phase II bond released. For EY 2004, Indiana was successful in achieving surface stability and in establishing vegetation on 4,710.21 acres.

Based on the IFO analysis of data supplied by the IDOR, between 1983 and June 2004, approximately 86,791 acres of mined land have met the criteria for Phase II bond release.

Establishment of Post Mining Land Use and Productivity Restoration

Post mining land use was achieved by establishing successful and appropriate vegetative cover. This includes restoring productivity, where appropriate. The IFO measured this element of reclamation success by the number of acres receiving Phase III bond release. For the evaluation period, 12 permits containing 5,775.49 acres had Phase III bond released.

Based upon the IFO analysis of data supplied by the IDOR, between 1983 and June 2004, approximately 63,974 acres have been fully reclaimed and the post mining land use and appropriate vegetative cover achieved, including restoration of productivity where appropriate.

Hydrologic Reclamation

The successful restoration of surface and ground water quality and quantity was measured by the accounting of acres of Phase III bond release achieved. Indiana released 5,775.49 acres for Phase III during the evaluation period and a total of approximately 63,974 acres since 1983.

Contemporaneous Reclamation

The OSM Directive, REG-8 defines contemporaneous reclamation to be the difference in time between when lands are disturbed and when they achieve phased bond release. There has been considerable discussion about whether this is a valid measure of contemporaneous reclamation. This discussion has taken place both within OSM and with the various State regulatory authorities. The results shown in the chart and table below

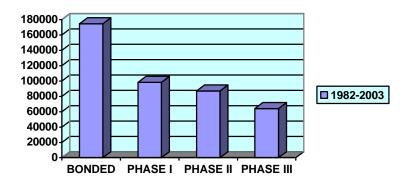
represent the best effort under REG-8 at assessing contemporaneous reclamation.

Acres of Bond Released 1983 - 2003

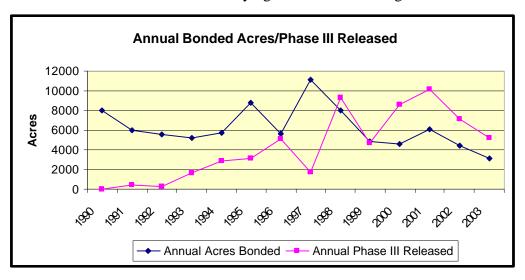
| YEAR | BONDED | PHASE I | PHASE II | PHASE III |
|--------|---------|---------|----------|-----------|
| 1983 | 3831 | 0 | 0 | 0 |
| 1984 | 42022 | 178 | 0 | 0 |
| 1985 | 18698 | 461 | 0 | 0 |
| 1986 | 7481 | 3069 | 0 | 0 |
| 1987 | 7463 | 5147 | 3708 | 0 |
| 1988 | 4815 | 4789 | 3365 | 0 |
| 1989 | 6544 | 5151 | 5769 | 0 |
| 1990 | 7501 | 2966 | 2549 | 0 |
| 1991 | 5219 | 3250 | 2006 | 459 |
| 1992 | 4335 | 4908 | 2898 | 298 |
| 1993 | 4292 | 2481 | 1915 | 1619 |
| 1994 | 3833 | 3148 | 4095 | 3112 |
| 1995 | 7150 | 5172 | 2778 | 2636 |
| 1996 | 2451 | 4548 | 3777 | 3517 |
| 1997 | 7981 | 7734 | 4814 | 3725 |
| 1998 | 14107 | 8549 | 8080 | 5500 |
| 1999 | 4780 | 4403 | 6110 | 7706 |
| 2000 | 5616 | 9914 | 6491 | 6544 |
| 2001 | 4566 | 7316 | 14386 | 11268 |
| 2002 | 6102 | 5004 | 5887 | 8408 |
| 2003** | 1783 | 4965 | 3453 | 3410 |
| 2004 | 3953 | 5275 | 4710 | 5775 |
| TOTAL | 174443* | 98428 | 86791 | 63974 |

^{*}THIS NUMBER DOES NOT REFLECT THE REMOVAL OF ACREAGE RELEASED AS NOT AFFECTED, NOR THE ACRES REPERMITTED AND BONDED. THE ACTUAL FINAL BONDED ACREAGE CAN BE SIGNIFICANTLY SMALLER THAN THIS.

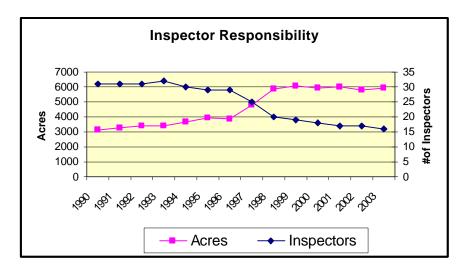
^{**} EY2003 IS FOR A 9 MONTH PERIOD (OCTOBER 1, 2002 – JUNE 30, 2003)



A general picture of how successfully reclamation is staying current with mining was made by the IFO by comparing the number of acres affected to the number of acres on which phase III bond was released by the IDOR from November 1, 2000, to October 31, 2003. For measurement of contemporaneous reclamation, the IDOR provided IFO data showing that 13,467 acres were affected, and 20,831.76 acres were phase III released. This number along with findings that only two violations of the requirement for contemporaneous reclamation were identified during IFO complete mine site evaluations in Indiana during EY 2004 is a good indication that reclamation is staying current with mining.



The increasing bonded acreage inventory has added substantially to the administrative costs of the regulatory authority. The current inventory of bonded acreage has diminished slightly due to the number of acres that have been granted final bond release being greater than the number of new acres bonded during the EY. This has allowed the IDOR to adjust staffing levels to provide improved customer service. The average number of acres assigned to inspectors has stabilized since 1998. The following chart captures the change in inspector responsibility from 1983 through 2003.



C. Customer Service

Effective customer service is an essential component of the regulatory program, and a responsibility that State regulatory authorities assume in carrying out the purposes of SMCRA. An evaluation of customer service performance is one of three required national measurement elements OSM policy calls for in each annual evaluation plan. This EY 04 evaluation determined the effectiveness of customer service provided by the State in responding to written citizen complaints about active coal mining operations.

A total of ninety-one (91) requests for blasting and twenty-five (25) for non-blasting inspections were received by the IDOR during the period July 1, 2001 through July 1, 2003. Twenty-two (22) files for blasting inspections and nine (9) for non-blasting inspections, constituting one-third of the population of each, were reviewed by the IFO. An analysis of that data produced findings as follows:

(1) Based on the evaluation sample, the IDOR conducted an inspection within 10 days of receipt of all citizens' requests for inspections relating to a possible coal operation violation as required by approved state regulations. Because of this short time frame, the complainant is normally notified of the impending inspection date by a telephone call from the assigned inspector. Consequently, a record of that notice usually remains in the inspector's files and not in the official complaint file.

The IDOR uses a form to accommodate citizens who complain by telephone so that by signing the form, their complaint may meet the requirement that it be in writing.

- (2) Citizen notification of an inspection to be conducted was not always evident owing to the explanation in paragraph (1) above.
- (3) A majority of files contained documentation that complainants were notified of inspection results within 10 working days. In two of the three instances where documentation was inadequate to verify that the citizen was notified of inspection results, a structural engineering inspection was conducted. Regarding blasting complaints, the IDOR makes the following distinction: (a) if a citizen complains that blasting is excessive, the IDOR considers that as an alleged violation, and inspects blasting records and other evidence to validate the claim; (b) if a complaint alleges structural damage, the IDOR considers it a damage claim and not a violation (since a citizen complaint must provide reason to believe there is a violation). Nevertheless, structural damage complaints are followed up with a site inspection anyway. However, the requirement to provide notice of appeal rights does not apply absent an alleged violation. If the IDOR investigation does find a violation, it will act accordingly. Due to factors beyond control, structural engineering inspections cannot be completed within 10 days, except in rare instances.

- (4) A majority of files contained documentation that coal mine operators were given the results of State inspections. In some instances, documentation was inadequate to verify that. It was noted that inspection results are provided by mailing a copy of the inspection report to involved parties, and some times a copy is not placed in the official complaint file.
- (5) Confidentiality of the citizen was adhered to if requested.
- (6) Citizens were told of their right to informal review of State action or inaction regarding their complaint in most cases. Documentation for the right to an informal review was not found for structural engineering inspections. (In an interview with the IDOR, it was pointed out that a right to appeal is not applicable if the structural engineering report finds the complaint to be non-blasting related.) See previous statement in paragraph (3) above.
- (7) IDOR's inspection documentation of its findings was adequate and reasonable.

Based upon its oversight review findings, the IFO concluded that the IDOR is in compliance with the requirements relating to citizen complaints found in their State regulations. The IFO did recommend, however, that the IDOR ensure complete file documentation that each action taken in adherence with their regulations, was within the prescribed time frame. The IDOR has already implemented new processes to ensure that the necessary data is available in the official files.

VII. OSM Assistance

The primary mode of OSM assistance to Indiana is through grant funding. The amount of grant funding awarded to Indiana for the operation of the Regulatory Program in EY 2004 was \$1.94 million. OSM provided 50% of the total funding necessary for Regulatory Program operation. OSM provided 100% funding for the Abandoned Mine Land Program in Indiana, which totaled \$5.70 million in EY 2004. Over the previous four years, OSM has awarded grants to Indiana totaling \$8.0 million for Regulatory Grants and \$21.74 million for the AML Grants. The following table contains the grant amounts for each of these four years.

Grants Awarded in Indiana (Dollars are in Millions)

| Year | Regulatory Grant | AML Grant |
|------|------------------|-----------|
| | Amount* | Amount** |
| 2004 | \$1.94 | \$5.70 |
| 2003 | \$2.38 | \$5.33 |
| 2002 | \$1.87 | \$5.23 |
| 2001 | \$1.81 | \$5.48 |

^{*} Regulatory Grant Year is October 1 – September 30

^{**} AML Grant Year is April 1 – March 31

Additionally, assistance is provided as outlined below:

- ➤ Technical training courses are offered by OSM throughout the year, which address technical and programmatic aspects of mining and reclamation. These courses are provided for OSM and State participants as well as industry and others on a space available basis.
- ➤ OSM continued to work with the IDOR and the U.S. Fish and Wildlife Service in EY 2004 to develop a set of mining related guidelines for protection of Indiana bats on areas proposed for mining in Indiana. The U.S. Fish and Wildlife Service has been waiting since the autumn of 2002 to receive guidance from their solicitors to resolve two issues that remain. Draft conservation measures have been developed and are being implemented by the IDOR through the permitting and inspection process. Even though the draft plan has not been approved by the Fish and Wildlife Service because of disputes, the proposal with the contested issues in place has been moved up the management levels at the IDOR to elevate the discussion as prescribed in the National Biological Opinion. The project will continue into 2005.
- ➤ OSM provides the Technical Information Processing System including local workstations and software for State use. The OSM also provides training and support. Indiana uses the system for a variety of tasks related to permit application processing and other technical or engineering evaluations. The technical staff continues to work with the State to develop and implement an electronic permitting program.
- ➤ Informal discussions occur between OSM and State management and staff that result in a good working relationship. Informal assistance is provided regarding field or implementation issues on a continual basis.
- ➤ The Director of the IFO sits on the Board of the Indiana Society for Mining and Reclamation. This is a diverse group that includes membership from OSM, the IDOR, Department of Commerce, citizens, industry, academia and power industries. The group's focus is to identify topics of interest and to sponsor a Technology Transfer Seminar each year. On December 1 and 2, 2003, the Seminar was held in Jasper, Indiana. 127 participants, from all factions of the public and private sectors, attended. Topics presented ranged from, "Geophysical Methods to Detect Underground Mine Voids"; "Surety Bonds and their Role in the Mining Industry"; to "the Use of Dredged Materials and Alkaline Activated Coal Ash for Abandoned Mine Reclamation."
- ➤ The OSM participated with Indiana on a Prime Farmland Team that is focused on addressing the technical aspects of prime farmland restoration. The team is composed of representatives of the coal mining industry, a private consultant, the Natural Resources Conservation Service, Purdue University Agronomy

Department, Purdue University Cooperative Extension Service, the Sierra Club, the Daviess County Soil and Water Conservation District, the Indiana Farm Bureau, besides OSM and the IDOR. The self-directed team works on issues related to reclamation of agricultural lands. These issues include management methods, demonstration of successful reclamation practices, and regulatory requirements. The team is currently assisting in developing a method to more accurately classify and map reclaimed mine soils and is in the initial phases of developing a guidance brochure about the management of post-mine agricultural lands. In addition, the team sponsored a Prime Farmland Reclamation Field Day at the Vigo Coal Company's Cypress Creek Mine near Boonville, Indiana on July 30, 2003.

- > OSM is a member of the IDOR AML Subsidence Team, which was formed during 1999 and continues today. The focus of the team is to develop proactive methods for prevention and minimization of damages related to mine subsidence. Three initiatives have been completed thus far. First, the team completed its contribution concerning subsidence for an information booklet entitled "Living Near Indiana Coal Mines" that has been developed to help developers, homebuyers, and others understand the risks and technical issues associated with buying and building in previously mined areas. Second, the team developed specifications for and solicited a contractor to install a subsidence early warning system into the Loge Elementary School in Boonville, Indiana. The system is the first in the region and will demonstrate the feasibility of such systems for protecting public safety in subsidence prone areas. The contract was awarded in December 2003. Lastly, the team enlisted the IGS to begin developing a GIS based protocol for prioritizing subsidence prone areas for preventative reclamation under the AML Program. The IGS will work to develop and refine the process over the next year. OSM contributions in the three areas described above were completed in 2004.
- The Indiana Division of Reclamation requested assistance in designing an acid mine drainage treatment wetland at the Enos tipple and gob pile area of the Patoka watershed. OSM is evaluating a number of possible treatment options. Project planning CAD drawings were provided to the State in January 2004. The project has been forwarded to the State contracting agency for processing, and construction is planned for the fall of 2004.
- ➤ OSM conducted a Mobile Computing Workshop at the IDOR in November, 2003. Thirteen participants learned how to use mobile GPS and mobile CAD software and hardware operating on GPS enabled tablet computers. The workshop included a field exercise at a nearby AML site where participants mapped AML features using current engineering software.

VIII. General Oversight Topic Reviews

In addition to the off-site impact and land restoration reviews, OSM conducted oversight activities in the program areas listed below. Copies of oversight documents relating to these topics may be obtained at the IFO office or by requesting specific reports by mail at the following address:

Office of Surface Mining Reclamation and Enforcement Indianapolis Field Office 575 North Pennsylvania, Room 301 Indianapolis, Indiana 46204

The IFO can also be contacted by E-mail at IFOMAIL@osmre.gov.

Complete Inspections: The workplan in this area was designed to allow the IFO to gather information, which would then be used to generate an overview of the "on-the-ground" impacts of surface coal mining and reclamation. A sample of 50 complete inspections was targeted with 47 of them being completed during the review year. As indicated in the off-site impact section above, the inspections indicated that Indiana maintains and administers an effective program that meets all SMCRA requirements.

Evaluation of Reclamation Vegetation Success: This evaluation began in EY 2003, at the State's request, with both State program and OSM-IFO staff involved in the effort. Because of the shortened 2003 oversight year, it became necessary to carry this evaluation over into EY04. The objective of this ongoing activity is to determine possibilities for enhancing efficiency and effectiveness of the AML Program's reclamation revegetation efforts.

Program managers anticipate that an examination of completed projects of varying ages, and seeding and management regimens, will help identify the most successful and cost effective reclamation strategies. Therefore, it is necessary to review a fairly broad range of reclamation sites, and although several sites were visited in EY 2003, much more data is required to draw valid conclusions.

In EY03 the evaluation team developed sampling methodology, identified sites, and began conducting field surveys. Surveys involve plant species identification, including volunteer species, estimating ground cover, determining survival of original plantings and diversity of species, and evaluation of over-all effectiveness in relation to existing post-reclamation land use. As opposed to the AML tree planting evaluation completed in 2002, this evaluation is concerned with all plant species. This evaluation effort extended through EY 2004. Completion is anticipated in EY 2005.

Study of Residential Development on Abandoned Lands: At the State's request, the EY 03 Performance Agreement included a joint Indiana AML Program-OSM/IFO study of the issues surrounding an increasing trend toward residential development on unreclaimed abandoned mine lands. This study was to examine the implications of site

development problems associated with building dwelling houses on potentially hazardous mined land, and the AML Program's role and responsibilities in relation to such occurrences.

During EY03 the AML Program determined that, at a minimum, it should deal with the issue from an educational outreach standpoint. People should be aware that choosing to build a house on certain abandoned mine sites places them and their property in jeopardy the same as building in floodways and on unstable shorelines. Consequently, a booklet was drafted to serve as a guide for landowners, developers and local officials to better assess abandoned mine lands before building. Work toward producing the booklet in final form, and assistance rendered by the IFO continued in EY 2004. Publication and distribution of the booklet through local organizations remain to be done in EY 2005.

Indiana's Data Entry into the Abandoned Mined Land Inventory System: This evaluation began as a result of an Audit Report: Inventory System and Performance Results of the Abandoned Mine Land Program, Report No. 2003-I-0074. In order to implement a remedy for the Inspector General's finding, and the recommendation to "Establish a quality control system that ensures that States, Tribes and OSM, as applicable, review and certify the accuracy of data entered into AMLIS," the IFO requested documentation of the system utilized by the IDOR ensuring accuracy of AMLIS data and certification that the system exists. The IFO received documentation of the procedures that are in place to maintain and verify the accuracy of AMLIS information with a signed certification that the procedures are in place.

Annually, starting in EY 2005, the IFO will review a random sample of the information entered in AMLIS during the year to verify that it matches the information maintained in hard copy.

APPENDIX A:

These tables present data pertinent to mining operations and State and Federal regulatory activities within Indiana. They also summarize funding provided by OSM and Indiana staffing. Unless otherwise specified, the reporting period for the data contained in all tables is the same as the evaluation year. Additional data used by OSM in its evaluation of Indiana's performance is available for review in the evaluation files maintained by the Indianapolis OSM Office.

| TABLE 1 – COAL PRODUCTION | T-1 |
|---|------|
| TABLE 2 – INSPECTABLE UNITS | T-2 |
| TABLE 3 – STATE PERMITTING ACTIVITY | Т-3 |
| TABLE 4 – OFF-SITE IMPACTS | T-4 |
| TABLE 5 – ANNUAL STATE MINING AND RECLAMATION RESULTS | T-5 |
| TABLE 6 – OPTIONAL (NOT USED) | |
| TABLE 7 – STATE BOND FORFEITURE ACTIVITY | T-7 |
| TABLE 8 – INDIANA STAFFING | T-8 |
| TABLE 9 – FUNDS GRANTED TO INDIANA BY OSM | T-9 |
| TABLE 10 – INSPECTION ACTIVITY | T-10 |
| TABLE 11 – ENFORCEMENT ACTIVITY | T-11 |
| TABLE 12 – LANDS UNSUITABLE ACTIVITY | T-12 |

APPENDIX B:

This Appendix contains the Indiana Department of Natural Resources, Division of Reclamation comments on the draft Evaluation Report, which the IFO received on August 24, 2004. A photocopy of the State's comment follows this page.

The Field Office Director's disposition of the State's comments is presented below.

Disposition of Comments:

No changes were necessary.